

Date: Sat, 30 Jul 94 10:09:11 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V94 #857
To: Info-Hams

Info-Hams Digest Sat, 30 Jul 94 Volume 94 : Issue 857

Today's Topics:

 15mW QSO's (2 msgs)
 6 Meters-New op needs advice.
 Call Sign Server (3 msgs)
 Callsigns via e-mail?
 GB0SNF..ooops
 ham humor
 Info-Hams Digest V94 #843
 Model rocket telemetry...
 Note to all
 PA3CXC/ST0 QSL Card (2 msgs)
 Ramsey SlyFox
 repeaters in the microwave bands
 Simulcasting repeaters on same freq

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 29 Jul 1994 11:43:57 +0300
From: elroy.jpl.nasa.gov!usc!howland.reston.ans.net!EU.net!sunic!news.funet.fi!
news.cc.tut.fi!proffa.cc.tut.fi!not-for-mail@ames.arpa
Subject: 15mW QSO's
To: info-hams@ucsd.edu

David Cook (davidc@lsid.hp.com) wrote:

[About 15mW output power just before battery exhaustion]

> Hmmm! How many situations have I been in where my battery is about to go
> and I am close enough to the receiving antenna on the other end that 15mW
> of power will do the job. Am I missing something here? 150mW I could maybe
> start to believe.

15 mW (+12 dBm) is a lot power if you have a line of sight path. At 145 MHz and a 10 km line of sight path, the path loss is about 95 dB and assuming omnidirectional antennas at both ends, the received power is -83 dBm or just below S7. At 1 km that would be S9+6 dB.

At 430 MHz the received power is about 10 dB less due to reduced capture area in omnidirectional antennas and about 19 dB less at 1290 MHz.

The real question is, what is the power consumption of the rest of the radio circuitry (receiver, processor and the rest of the transmitter circuitry excluding the output stage). There is no point to reduce the output stage power consumption (and thus output power) much below the consumption of the rest of the circuitry.

Paul OH3LWR

Date: Fri, 29 Jul 1994 15:18:30 GMT
From: lll-winken.llnl.gov!overload.lbl.gov!agate!howland.reston.ans.net!
vixen.cso.uiuc.edu!news.uoregon.edu!netnews.nwnet.net!reuter.cse.ogi.edu!hp-cv!hp-
pcd!hpcvsnz!davidc@ames.arpa
Subject: 15mW QSO's
To: info-hams@ucsd.edu

Greg Tarcza (gregt@col.hp.com) wrote:

: The last time the final amp in our local repeater went out (Colorado
: Springs, CO - repeater elevation > 14000 ft), I noticed that the repeater
: was getting quite weak from about 40 miles away. When the machine was
: swapped out and brought down for repair, the transmitter output was
: measured at LESS THAN THREE MILLIWATTS! ... that's 3mw INTO the
: duplexer! I believe that 15mw will go much further than you think.

: Greg Tarcza WA200D

In this case 15mW is probably sufficient. However, around here with all the hills and buildings etc. more often than not one of them is in the signal path and I know 15mW will not cut it. Then again our RACES repeater is located on the side of a mountain just out of town here and 15mW just might do it.

Dave KB7QCL

Date: Fri, 29 Jul 1994 15:10:49 GMT
From: lll-winken.llnl.gov!overload.lbl.gov!agate!spool.mu.edu!news.clark.edu!
netnews.nwnet.net!reuter.cse.ogi.edu!hp-cv!hp-pcd!hpcvsnz!dickrb@ames.arpa
Subject: 6 Meters-New op needs advice.
To: info-hams@ucsd.edu

Hi

Welcome to 6 mtrs.... You have made a good choice BUT you have to understand that operating on 6 requires dedicated listening and making noise on the band. I have run a beacon on 6 in the past and it is amazing how that helps. When the band opens all of those quiet hours are forgotten - its great!!

You will find that you end up 99+% listening and very little actual contact time - outside of 'local' qso's. Local being 100 miles.

My other favorite band is 160 mtrs. Both bands require many of the same listening/working skills.

Good luck,

de w7wkr

Date: Fri, 29 Jul 94 11:01:00 -0400
From: agate!howland.reston.ans.net!gatech!udel!news.sprintlink.net!
coyote.channel1.com!channel1!alan.wilensky@ames.arpa
Subject: Call Sign Server
To: info-hams@ucsd.edu

FCC form 610's can also be found in the back of the Gordon West Radio study Guides, Sold by Radio Shack.

Alan Wilensky, N1SS0
General Manager
Interactive Workplace Division
Vicom, LTD.
Phone: Edmonton Office
11603 165 St.
abm@world.std.com

≥ CmpQwk #UNREG≥ UNREGISTERED EVALUATION COPY

Date: 29 Jul 1994 15:56:10 GMT
From: lll-winken.llnl.gov!overload.lbl.gov!agate!howland.reston.ans.net!
vixen.cso.uiuc.edu!newsrelay.iastate.edu!news.iastate.edu!isuvax.iastate.edu!
TWP77@ames.arpa
Subject: Call Sign Server
To: info-hams@ucsd.edu

In article <40.8998.2426@channel1.com>, alan.wilensky@channel1.com (Alan Wilensky) writes:

>FCC form 610's can also be found in the back of the Gordon West Radio
>study Guides, Sold by Radio Shack.

Are they the new forms? (Last I checked they were still old ones...)

Date: Fri, 29 Jul 94 19:28:00 -0400
From: news.sprintlink.net!coyote.channel1.com!channel1!alan.wilensky@uunet.uu.net
Subject: Call Sign Server
To: info-hams@ucsd.edu

t>Are they the new forms? (Last I checked they were still old ones...)

old. Like crusty underware. But mine worked.

Alan Wilensky, N1SS0
General Manager
Interactive Workplace Division
Vicom, LTD.
Phone: Edmonton Office
11603 165 St.
abm@world.std.com

≥ CmpQwk #UNREG≥ UNREGISTERED EVALUATION COPY

Date: 30 Jul 1994 09:03:31 -0500
From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!cs.utexas.edu!not-for-mail@network.ucsd.edu
Subject: Callsigns via e-mail?
To: info-hams@ucsd.edu

Do any call via e-mail services exist?

Thanks.

Scott

Scott Ehrlich, Amateur Radio Callsign: wylz, wylz@ka2jxi.ny [AX.25 Packet]
How to reach me: wylz@neu.edu [Internet], wylz@k2cc.ampr.org [TCP/IP Packet]
Boston ARC ftp archives: ftp oak.oakland.edu /pub/hamradio
Boston ARC Web page: http://www.acs.oakland.edu/barc.html

Date: Fri, 29 Jul 1994 21:17:49 +0000
From: pipex!demon!g6dqy.demon.co.uk!john@uunet.uu.net
Subject: GB0SNF..oops
To: info-hams@ucsd.edu

It should read July 31st. SORRY!!!
john

--
e-mail john@g6dqy.demon.co.uk Nr Shrewsbury Shropshire
System used : Acorn A3000 4 MB RAM, 60 MB Hard Disk
AX.25 mail to g6dqy @ gb7pmb.#28.gbr.eu

Date: 30 Jul 1994 08:38:48 -0700
From: ihnp4.ucsd.edu!news.cerf.net!mvb.saic.com!bethel.connected.com!
hebron.connected.com!not-for-mail@network.ucsd.edu
Subject: ham humor
To: info-hams@ucsd.edu

Paul (Cliffy) Palmer (palmer@Trade-Zone.msfc.nasa.gov) wrote:
: In article 18u@apakabar.cc.columbia.edu, jlbaltz@bonjour.cc.columbia.edu (Jerry B
Altzman) writes:
: >In article <Pine.3.87.9407271517.A80270-01000000@fep01.rfc.comm.harris.com>,
: >Steven L Goldstein <slg@adm01.rfc.COMm.harris.COM> wrote:
: >>I was explaining to my wife last night that some hams refer to their
: >>children as harmonics. When she asked why, I explained that, for example,
: >>if you were transmitting a signal on 7 MHz, there'd be a harmonic at
: >>14 MHz, then a smaller harmonic at 21 MHz, kind of like a family.
: >
: >Unless you're into parthenogenesis, why not refer to them as intermods? You
: >need two signals for that...
: >
: >>Steve, KB2PWM
: >

: >///jbaltz
: >jerry b. altzman Entropy just isn't what it used to be +1 212 650 5617
: >jbaltz@columbia.edu jbaltz@sci.ccny.cuny.edu KE3ML (HEPNET) NEVIS::jbaltz

: I don't know. Sometimes, they seem more like parisitic oscillations to me ;)

: ---
: Paul (Cliffy) Palmer, -.-- .. -.. --.
: New Technology, Inc.
: 700 Boulevard South, Suite 401
: Huntsville, Alabama 35802
:
: Internet: palmer@Trade-Zone.msfc.nasa.gov.
: Telephone: (205) 461-4569

How about *Hetrodynes* ?

D
How about *Hetrodynes* ? hee he

Date: 30 Jul 94 15:05:51 GMT
From: news-mail-gateway@ucsd.edu
Subject: Info-Hams Digest V94 #843
To: info-hams@ucsd.edu

The Detroit address is (44.102.48.2/port=3000).
>>Jon<<

Date: 29 Jul 1994 20:59:27 -0400
From: ihnp4.ucsd.edu!news.acns.nwu.edu!math.ohio-state.edu!howland.reston.ans.net!
gatech!gt-news!prism!prism!not-for-mail@network.ucsd.edu
Subject: Model rocket telemetry...
To: info-hams@ucsd.edu

Howdy. I need some sort of circuit that can open a switch for about half a
sec. or so and then close it and then repeat it after about ten seconds.
Could someone give me an easy diagram for this? Thanks.

P.S. Does anyone know what a varactor diode is and where I can get one?

--
Joel V. Odom KB5GWK + pi=~3.14159265358979323846264338327950
24879 Georgia Tech +++++ 28841971693993751058209749445923

Atlanta, GA 30332 + physics 07816406286208998628034825342117
gt4879a@prism.gatech.edu + major 067982148086513282306647....

Date: 29 Jul 94 16:13:11 -0500
From: news.cerf.net!gopher.sdsc.edu!nic-nac.CSU.net!charnel.ecst.csuchico.edu!
yeshua.marcam.com!zip.eecs.umich.edu!newsxfer.itd.umich.edu!gatech!
howland.reston.ans.net!newsserver.@ihnp4.ucsd.edu
Subject: Note to all
To: info-hams@ucsd.edu

Someone wrote:

> In order to reply to your messages, please supply your e-mail address at the
> end of each message. The system supplies addresses that are too long. They
> also include unnecessary (for humans) routing information.
> I am on a Lanmanager network, running MSMail with an SMTP gateway which does
> not allow me to use embedded supplied addresses. And I sure aint going to
> type in addresses which in most cases are three lineslong!

Then you should demand they fix it. Why should the rest of the world have to
adapt because a service provider is too lazy to supply users with the proper
tools?

I note that the poster did not append his own e-mail address to the end of his
post.

Date: 29 Jul 1994 20:30:38 GMT
From: cs.utexas.edu!gerald.cc.utexas.edu!astro.as.utexas.edu!oo7@uunet.uu.net
Subject: PA3CXC/ST0 QSL Card
To: info-hams@ucsd.edu

kac4828@ariel.lerc.nasa.gov (Tom Kacpura (NYMA)) says:

>>My uncle worked PA3CXC/ST0 for his last zone for WAZ on 17 meters.
>>He has of [sic] yet to receive the QSL card. Can anyone help?

Well, give us some clues. Presumably he is not just sitting
waiting for PA3CXC to send him a card because CXC needs your
uncle's QSL card in return.

What did he send, where did he send it, and when? If we know
that, perhaps we can suggest the next step -

Derek Wills (AA5BT, G3NMX)
Department of Astronomy, University of Texas,

Austin TX 78712. (512-471-1392)
oo7@astro.as.utexas.edu

Date: Sat, 30 Jul 94 14:19:45 GMT
From: agate!howland.reston.ans.net!gatech!news-feed-1.peachnet.edu!news.duke.edu!
eff!news.kei.com!travelers.mail.cornell.edu!newstand.syr.edu!
galileo.cc.rochester.edu!uhura.cc.@ihnp4.ucsd.edu
Subject: PA3CXC/ST0 QSL Card
To: info-hams@ucsd.edu

kac4828@ariel.lerc.nasa.gov (Tom Kacpura (NYMA)) says:

>My uncle worked PA3CXC/ST0 for his last zone for WAZ on 17 meters.
>He has of yet to receive the QSL card. Can anyone help?

Date: 29 Jul 1994 21:37:42 GMT
From: ihnp4.ucsd.edu!news.acns.nwu.edu!math.ohio-state.edu!howland.reston.ans.net!
gatech!asuvax!chnews!scorpion.ch.intel.com!cmoore@network.ucsd.edu
Subject: Ramsey SlyFox
To: info-hams@ucsd.edu

In article <gregCtpsvI.Ao0@netcom.com>, Greg Bullough <greg@netcom.com> wrote:
> ...that as built, the rig (SlyFox) didn't meet specs.

It didn't meet specs because it wasn't tuned yet. Kits don't magically work, Greg. You have to tune them. I've been told that the guy at 73 forgot to RTFM.

>that was indicative that something less than trivial was involved
>in completing the project.

Don't tell anybody I told you this... ham radio is not trivial... kits don't work unless you tune them... if you are into trivial, don't attempt a kit. I learned a heck of a lot _because_ my Heathkit didn't work.

>he, having waited until the original posting expired on most systems, has
>got it seriously wrong.

When I read the article in 73, I tried to retrieve your posting but it had expired. I had to recall it from memory and may not have all the details right... but I think I got the gist right.

>but if a third of it is at the second harmonic, and you have no
>spectrum analyzer (how many No-coders and Novices do?), you're sunk.

Not true... a dummy load and a wattmeter is all you need to tune the SlyFox because according to the 73 article, it meets the FCC specs if it is tuned properly.

>And does Ramsey say 'don't even try to tune this beastie up if you
>don't have a dummy load and VHF/UHF watt-meter? Hmmm?'

Come on, Greg. Ramsey also doesn't say 'you have to understand English to read the manual'. Some things should be obvious to anyone with a ham license. The light bulbs are a fair substitute for a dummy load and a wattmeter, assuming one knows that the final has to be tuned to resonance (God help us if a bona fide ham doesn't know that).

>>In the 50's, it was a rare ham who didn't wind his own coils and
>>everyone knew the coils might have to be adjusted for proper operation.

>

>This ain't the fifties. In the fifties, Heathkit was just a-astartin.

>

>>Should a kit manual also be required to teach the physics that hams
>>are supposed to know in order to pass their ham tests?

>

>Yes.

>Heath sure did. They told you how to align their kits. If it was beyond
>the stated target market, they shipped that section, pre-built and aligned.

I'll quote you here. "This ain't the fifties". Heathkit went down the tubes... seems it cost them so much to teach physics and pre-build and align sections, they couldn't make a decent profit.

You will probably agree with me on this one... the guys who mail-ordered their ham tickets from Southern California should not attempt a kit.

73, Cecil, KG7BK, 00TC (Not speaking for Intel)

Date: 29 Jul 1994 11:42:47 +0300

From: elroy.jpl.nasa.gov!usc!howland.reston.ans.net!EU.net!sunic!news.funet.fi!
news.cc.tut.fi!proffa.cc.tut.fi!not-for-mail@ames.arpa

Subject: repeaters in the microwave bands

To: info-hams@ucsd.edu

Warren Kinninger (wkinning@nyx10.cs.du.edu) wrote:

> The line of sight requirements would limit the coverage of microwaves
> compared to VHF so you'd tend to have more repeaters with smaller
> coverage areas, especially in areas without mountains or tall buildings

> for repeater sites. I don't see any technical problem in implementing
> this with current microwave components. There are problems with:

Reducing the cell size is the best way to go, if you have a high enough user density to support this infrastructure. There should be at least a dozen of hams in each cell (on average) to be able to buy and maintain the repeater system. This is possible only in densely populated areas.

> 1) Lack of good signal path during casual use due to walls, trees,
> buildings, etc.

Man-made structures are not so much of a problem, as they reflect the signal quite nicely. A large number of such structures can be modelled in a similar way as in other scattering propagation modes, i.e. the power that illuminates the scattering volume is reradiated in all directions. The scattering modes usually have a path loss that is proportional to the fourth power of distance (12 dB for each doubling of distance) , while the line of sight path loss is only proportional to the second power of distance (6 dB for each doubling of distance). If you are used to line of sight path loss calculations (which requires a surprisingly little power) the ERPs required scattered paths might initially look enormous.

The real problem is the lack of structures that could be used to reflect or diffract the signal in rural areas and the absorptive properties of vegetation.

> 2) Health hazards from radiation if you crank up the power enough
> to get a good signal because of walls, trees, buildings, etc.

This is a problem with handhelds, but fortunately the available DC-power is limited and you can not use highly directional antennas with handhelds, which also limits the available ERP.

The problem is how the repeater is going to hear you. If the repeater is at a high place and omnidirectional coverage is required, the main lobe of the repeater receiver antenna should extend from the horizontal plane down to 1 or 2 degrees below the horizontal plane, corresponding to a gain of 21 or 18 dBi respectively. This can be hard to achieve for an omnidirectional (in horizontal plane) antenna. If feasible, this gain can still be too little to compensate for the larger path loss (i.e. reduced capture area) in higher microwave bands.

> 3) Multipath interference due to walls, trees, buildings, etc. Multipath
> can be reduced somewhat by using special antennas and signal processing.

You need some frequency spreading system so that you can avoid these frequency dependent nulls (in more or less) stationary stations. A moving mobile station has its own "mechanical" null avoidance system :-)

Even if frequency spreading is used, you must still expect a large number (maybe hundreds) of signal dropouts every second lasting 5-30 % of the time of each multipath cycle. This requires a heavily interleaved code and a very strong forward error correction, even stronger than the Compact Disc system.

Paul OH3LWR

--

Phone	: +358-31-213 3657	Mail: Hameenpuisto 42 A 26
Internet:	Paul.Keinanen@Telebox.Mailnet.fi	FIN-33200 TAMPERE
Telex	: 58-100 1825 (ATTN: Keinanen Paul)	FINLAND
X.400	: G=Paul S=Keinanen O=Kotiposti A=ELISA C=FI	

Date: Fri, 29 Jul 1994 22:23:29 GMT
From: ihnp4.ucsd.edu!news.acns.nwu.edu!math.ohio-state.edu!usc!elroy.jpl.nasa.gov!
llyene!marconi.jpl.nasa.gov!not-for-mail@network.ucsd.edu
Subject: Simulcasting repeaters on same freq
To: info-hams@ucsd.edu

Greetings all!

I was wondering if anyone has any experience with repeater simulcast. The Los Angeles County Sheriff has it on their system with over 30 repeaters all on the same frequency, but all phase locked so that overlapping regions have nearly zero beat note (perhaps at most a slight fading effect once every 4 seconds).

I've read in Mobile Radio Technology that these commercial sites are synchronized via WWVB or GPS.

What I'd like to know is if this is plausible for ham radio use for say two sites? Is there a simple way to get reused Micors/Mitreks/etc. to be phased locked together? It doesn't seem easy. The receiver voting portion seems easier than getting both sites to xmit in phase.

Is there equipment from Motorola that already does this? How much would something like that be? Could I get a DDS board that replaces the elements in the Micors/Mitreks that can be fed a 10MHz reference signal from a GPS/WWVB receiver?

Any suggestions or hints would be appreciated.
Thanks & 73's
- Cliff

Date: (null)
From: (null)
Rajiv
aa9ch/2

Date: (null)
From: (null)
I also noticed that the one month dated QST no longer has a price on the front cover, interesting. ;)

kc4iyd

Nancy Rabel Hall nmr1248@venus.lerc.nasa.gov
Space Experiments Division --... --- -- -.. . KC4IYD
NASA - Lewis Research Center stamp collector, SF addict

Date: 30 Jul 1994 00:18:49 GMT
From: ihnp4.ucsd.edu!news.acns.nwu.edu!math.ohio-state.edu!howland.reston.ans.net!
gatech!asuvax!chnews!scorpion.ch.intel.com!cmoore@network.ucsd.edu
To: info-hams@ucsd.edu

References <h0+RTqi.jramsey@delphi.com>, <CtKs4o.5or@news.Hawaii.Edu>,
<gregCtpuwo.F3y@netcom.com>ion.ch.
Subject : Re: Ramsey SlyFox

In article <gregCtpuwo.F3y@netcom.com>, Greg Bullough <greg@netcom.com> wrote:

>>In article <h0+RTqi.jramsey@delphi.com> jramsey@delphi.com writes:

>>>it's easier to spread the coils a bit than to have to add more turns!

>Gee, Cecil, it's a good thing that kit manufacturers can expect not to
>have to re-teach hams the 'basic physics' that they had to know to get
>their ham licenses, isn't it? Greg

Hi again Greg, Obviously, John functions on an algebraic plane so he
no doubt meant to say, "add more (negative) turns". ;-)

73, Cecil, KG7BK, 00TC (Not speaking for Intel)

Date: 29 Jul 1994 15:44 EDT
From: lerc.nasa.gov!lerc.nasa.gov!venus.lerc.nasa.gov!nmr1248@purdue.edu
To: info-hams@ucsd.edu

References <1994Jul20.115448.1@woods.uml.edu>,
<1994Jul22.181523.18465@govonca.gov.on.ca>, <31701t\$5au@apple.com>h.edu
Subject : Re: QST on News Stands?

In article <31701t\$5au@apple.com>, kchen@apple.com (Kok Chen) writes...
>pepperb@govonca.gov.on.ca (Brien Pepperdine) writes:
>
>>Why is the QST issue dated July/August? Anyone know?
>>Masthead says its a monthly, and it has been 12 issues per annum for a
>>long as I remember.
>
>Perhaps that only applies to news-stand QSTs? My July QST said July,
>and the QST that came in the mail two days ago (the one with the olde
>wireless sets and olde pharte on the cover :-) says August.
>
>
>Kok Chen, AA6TY kchen@apple.com
>Apple Computer, Inc.

End of Info-Hams Digest V94 #857
